

Assignments

- Homework 1 is **due** by midnight on Friday (Jan 26th)
- Homework 2 will be assigned in class on Friday

Lecture 3: Basic Network Config

```
matthew@dhcp178 ~ % ssh root@129.24.245.16
```

```
[root@129.24.245.16's password:
```

```
Last failed login: Wed Jan 24 09:45:26 CST 2024 from 167.71.93.172 on ssh:notty
```

```
There were 1051 failed login attempts since the last successful login.
```

```
Last login: Sun Jan 21 17:05:30 2024 from 129.24.240.92
```

```
[root@localhost ~]# █
```



System

PowerEdge R620
root , Admin

- Overview
- Server
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 - Virtual Console
 - Alerts
 - Setup
 - Troubleshooting
 - Licenses
 - Intrusion
- iDRAC Settings
 - Network
 - User Authentication**
 - Update and Rollback
 - Server Profile
 - Sessions
- Hardware
- Storage
- Host OS

Local Users

Directory Services

Smartcard

Users

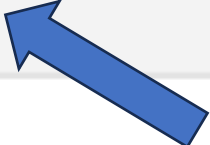


Users

User ID	State	User Name	Privilege				
			iDRAC	LAN	Serial Port	Serial Over LAN	SNMP v3
Instructions: To configure a user, click on the User ID number.							
1	Disabled	anonymous	None	None	None	Disabled	Disabled
2	Enabled	root	Administrator	Administrator	Administrator	Enabled	Disabled
3	Disabled		None	None	None	Disabled	Disabled
4	Disabled		None	None	None	Disabled	Disabled
5	Disabled		None	None	None	Disabled	Disabled
6	Disabled		None	None	None	Disabled	Disabled
7	Disabled		None	None	None	Disabled	Disabled
8	Disabled		None	None	None	Disabled	Disabled
9	Disabled		None	None	None	Disabled	Disabled
10	Disabled		None	None	None	Disabled	Disabled
11	Disabled		None	None	None	Disabled	Disabled
12	Disabled		None	None	None	Disabled	Disabled
13	Disabled		None	None	None	Disabled	Disabled
14	Disabled		None	None	None	Disabled	Disabled
15	Disabled		None	None	None	Disabled	Disabled
16	Disabled		None	None	None	Disabled	Disabled

Instructions: To configure a user, click on the User ID number.

1	Disabled	anonymous	None
2	Enabled	root	Administrator
3	Disabled		None
4	Disabled		None
5	Disabled		None
6	Disabled		None
7	Disabled		None
8	Disabled		None
9	Disabled		None





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User Main Menu: User ID 2



User Configuration

Configure User ▾

Configure User

Smart Card Configuration

Configure User ▾

- Upload User Certificate
- View User Certificate
- Upload Trusted CA Certificate
- View Trusted CA Certificate

SSH Key Configurations

Configure User ▾

- Upload SSH Key(s)
- View/Remove SSH Key(s)

Back to Users Next





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- Local Users**
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User Configuration



General	
User ID	2
Enable User	<input checked="" type="checkbox"/>
User Name	<input type="text" value="root"/>
Change Password	<input type="checkbox"/>
New Password	<input type="text"/>
Confirm New Password	<input type="text"/>

Set this password to be your team root password

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IPMI User Privileges	
Maximum LAN User Privilege Granted	Administrator
Maximum Serial Port User Privilege Granted	Administrator
Enable Serial Over LAN	<input checked="" type="checkbox"/>

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SNMP v3	
Enable SNMP v3	<input type="checkbox"/>
Authentication type	SHA
Privacy type	AES



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Maximum Serial Port User Privilege Granted	Administrator
Enable Serial Over LAN	<input checked="" type="checkbox"/>

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SNMP v3

Enable SNMP v3	<input type="checkbox"/>
Authentication type	SHA
Privacy type	AES

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iDRAC User Privileges

Roles	Administrator
Login	<input checked="" type="checkbox"/>
Configure	<input checked="" type="checkbox"/>
Configure Users	<input checked="" type="checkbox"/>
Logs	<input checked="" type="checkbox"/>
System Control	<input checked="" type="checkbox"/>
Access Virtual Console	<input checked="" type="checkbox"/>
Access Virtual Media	<input checked="" type="checkbox"/>
System Operations	<input checked="" type="checkbox"/>
Debug	<input checked="" type="checkbox"/>

Back to User Main Menu

Apply





Chat

Keyboard

Screen Capture

Refresh

Full Screen

Connect Virtual Media

Disconn

```
Rocky Linux 9.3 (Blue Onyx)  
Kernel 5.14.0-362.8.1.el9_3.x86_64 on an x86_64
```

```
moonshine login:  
moonshine login:
```

```
Last login: Sun Jan 21 17:05:30 2024 from  
129.24.240.92
```

```
[root@localhost ~]# hostname moonshine
```

```
[root@localhost ~]# exit
```

```
logout
```

```
Connection closed
```

```
[root@moonshine ~]# ip a
```

```
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
```

```
link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
```

```
inet 127.0.0.1/8 scope host lo
```

```
valid_lft forever preferred_lft forever
```

```
inet6 ::1/128 scope host
```

```
valid_lft forever preferred_lft forever
```

```
2: eno1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state DOWN group default qlen 1000
```

```
link/ether d4:ae:52:8b:72:8c brd ff:ff:ff:ff:ff:ff
```

```
altname enp1s0f0
```

```
3: eno2: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc mq state DOWN group default qlen 1000
```

```
link/ether d4:ae:52:8b:72:8d brd ff:ff:ff:ff:ff:ff
```

```
altname enp1s0f1
```

```
4: eno3: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc mq state DOWN group default qlen 1000
```

```
link/ether d4:ae:52:8b:72:8e brd ff:ff:ff:ff:ff:ff
```

```
altname enp2s0f0
```

```
5: eno4: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc mq state DOWN group default qlen 1000
```

```
link/ether d4:ae:52:8b:72:8f brd ff:ff:ff:ff:ff:ff
```

```
altname enp2s0f1
```

```
[root@moonshine ~]# nmtui
```

NetworkManager TUI

Please select an option

Edit a connection

Activate a connection

Set system hostname

Radio

Quit

<OK>

Ethernet

eno1

eno4

eno3

eno2

InfiniBand

ibp65s0



<Add>

<Edit...>

<Delete>



<Back>

Edit Connection

Profile name eno1
Device eno1 (D4:AE:52:8B:72:8C)

= ETHERNET <Show>
= 802.1X SECURITY <Show>

= IPv4 CONFIGURATION <Manual> <Hide>

Addresses 129.24.245.16/22 <Remove>
<Add...>

Gateway 129.24.244.1

DNS servers 129.24.246.110 <Remove>

129.24.246.118 <Remove>

<Add...>

Search domains hpc.unm.edu <Remove>

<Add...>

Routing (No custom routes) <Edit...>

- Never use this network for default route
- Ignore automatically obtained routes
- Ignore automatically obtained DNS parameters

- Require IPv4 addressing for this connection

= IPv6 CONFIGURATION <Automatic> <Show>

Your linux server
address here
129.24.245.TeamID/22



Edit Connection

= 802.1X SECURITY

<Show>

= IPv4 CONFIGURATION <Manual>

<Hide>

Addresses 129.24.245.16/22 <Remove>

<Add...>

Gateway 129.24.244.1

DNS servers 129.24.246.110 <Remove>

129.24.246.118 <Remove>

<Add...>

Search domains hpc.unm.edu <Remove>

<Add...>

Routing (No custom routes) <Edit...>

- Never use this network for default route
- Ignore automatically obtained routes
- Ignore automatically obtained DNS parameters

- Require IPv4 addressing for this connection

= IPv6 CONFIGURATION <Automatic>

<Show>

- Automatically connect
- Available to all users

<Cancel> <OK>

Ethernet

eno1

eno4

eno3

eno2

InfiniBand

ibp65s0



<Add>

<Edit...>

<Delete>



<Back>

NetworkManager TUI

Please select an option

Edit a connection

Activate a connection

Set system hostname

Radio

Quit

<OK>

Ethernet (eno1)

* eno1

Ethernet (eno2)

eno2

Ethernet (eno3)

eno3

Ethernet (eno4)

eno4

<Deactivate>

<Back>

Apply the new network settings

```
[root@moonshine ~]# nmcli device reapply eno1  
Connection successfully reapplied to device 'eno1'.  
[root@moonshine ~]#
```

Check the new settings

```
[root@moonshine ~]# ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eno1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether d4:ae:52:8b:72:8c brd ff:ff:ff:ff:ff:ff
    altname enp1s0f0
    inet 129.24.245.TeamID/22 brd 129.24.247.255 scope global noprefixroute eno1
        valid_lft forever preferred_lft forever
    inet6 fe80::d6ae:52ff:fe8b:728c/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
3: eno2: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc mq state DOWN group default qlen 1000
    link/ether d4:ae:52:8b:72:8d brd ff:ff:ff:ff:ff:ff
    altname enp1s0f1
4: eno3: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc mq state DOWN group default qlen 1000
    link/ether d4:ae:52:8b:72:8e brd ff:ff:ff:ff:ff:ff
    altname enp2s0f0
5: eno4: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc mq state DOWN group default qlen 1000
    link/ether d4:ae:52:8b:72:8f brd ff:ff:ff:ff:ff:ff
    altname enp2s0f1
```

```
matthew@dhcp178 ~ % ssh root@129.24.245.16
```

```
root@129.24.245.16's password:
```

```
Last failed login: Wed Jan 24 11:31:45 CST 2024 from 112.28.209.66 on ssh:notty
```

```
There were 8 failed login attempts since the last successful login.
```

```
Last login: Wed Jan 24 11:25:30 2024 from 129.24.246.178
```

```
[root@moonshine ~]#
```

```
[root@moonshine ~]# yum install tar
```

```
Last metadata expiration check: 0:53:22 ago on Wed 24 Jan 2024 10:44:48 AM CST.
```

```
Dependencies resolved.
```

```
=====
```

```
=====
```

Package Size	Architecture	Version	Repository
-----------------	--------------	---------	------------

```
=====
```

```
=====
```

```
Installing:
```

tar	x86_64	2:1.34-	
6.e19_1	baseos	876 k	

```
Transaction Summary
```

```
=====
```

```
=====
```

```
Install 1 Package
```

```
Total download size: 876 k
```

```
Installed size: 3.0 M
```

```
Is this ok [y/N]:
```

Is this ok [y/N]: y

Downloading Packages:

tar-1.34-6.el9_1.x86_64.rpm	89 kB/s 876 kB	00:09
-----------------------------	------------------	-------

Total	86 kB/s 876 kB	00:10
-------	------------------	-------

Running transaction check

Transaction check succeeded.

Running transaction test

Transaction test succeeded.

Running transaction

Preparing	:		1/1
Installing	:	tar-2:1.34-6.el9_1.x86_64	1/1
Running scriptlet:		tar-2:1.34-6.el9_1.x86_64	1/1
Verifying	:	tar-2:1.34-6.el9_1.x86_64	1/1

Installed:

tar-2:1.34-6.el9_1.x86_64

Complete!

[root@moonshine ~]#


```
[root@moonshine ~]# tar --version
tar (GNU tar) 1.34
Copyright (C) 2021 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later
<https://gnu.org/licenses/gpl.html>.
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.
```

Written by John Gilmore and Jay Fenlason.